

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-14 (canceled)

15. (new) A method that delivers information between applications running on mobile wireless devices and serving as clients and applications running on computers, said computers being connected to a wired computer network, the method comprising:

connecting a computer to the wired computer network, implementing a message proxy on the computer, and establishing a wireless communication channel between the message proxy and the clients, implementing on the clients a programming library corresponding to at least a fraction of a programming library used by a message oriented middleware (MOM) and a transport protocol adapter with a logic to interface with a transport protocol, thus defining at least one communication transport protocol for a communication on said communication channel,

configuring the message proxy to include at least one transport protocol adapter with a logic to interface with said communication transport protocol,

creating, on each wireless device, code information representing at least one of a topic and of a queue contained in a MOM programming library,

transmitting, from each client, via the transport protocol adapter, the code information to the message proxy implemented on a computer connected to the wired computer network,

simultaneously or subsequently, transmitting, from each client, via the transport protocol adapter, message data specific to a first application to the message proxy, and

creating, by the message proxy, at least one MOM command referred to by the code information, and

forwarding the message data to a second application using the MOM command referred to by the code information.

16. (new) The method of claim 15, further comprising implementing at least one of a wireless transport protocol adapter before start-up of the message proxy and implementing at least one of a wireless transport protocol adapter by a program code at run-time of the message proxy.

17. (new) The method of claim 15, further comprising configuring at least one transport protocol adapter to support HTTP (Hypertext Transfer Protocol) or SMS (Short Messaging Service) or WAP (Wireless Application Protocol) or WDP (WAP Wireless Datagram Protocol) or GPRS (General Packet Radio Services) or UMTS (Universal Mobile Telecommunications Service).

18. (new) The method of claim 15 further comprising providing a local database on at least one of the clients and on the message proxy, and configuring the database to allow the client and the message proxy to store information in case of disconnection.

19. (new) The method of claim 18, further comprising providing at least one pluggable database adapter allowing the client and the message proxy to use any database product.

20. (new) The method of claim 15, further comprising implementing the clients in the JAVA programming language.

21. (new) The method of claim 15, further comprising implementing the clients according to the JMS (Java Message Service) specification.

22. (new) The method of claim 15, further comprising operating the clients to support

the JMS publish/subscribe messaging model.

23. (new) The method of claim 15, further comprising operating the clients to support the JMS (Java Message Service) point-to-point messaging model.

24. (new) A method of operating a computer connected to a wired computer network, comprising:

implementing on the computer at least one transport protocol adapter with a logic to interface with a transport protocol,

receiving at least one of message oriented middleware (MOM) command tokens and of MOM message tokens from an application running on a mobile wireless device serving as client, via said transport protocol adapter and using said transport protocol,

sending MOM message tokens to a client via said transport protocol adapter and using said transport protocol, and

exchanging MOM message tokens with a MOM client implemented on a computer of said wired computer network, and

said code comprising software code implemented to receive and send JMS (Java Message Service) MOM tokens.

25. (new) A method of running a computer program on a computer connected to a wired computer network, comprising:

implementing in program code at least one transport protocol adapter with a logic to interface with a transport protocol,

receiving at least one of message oriented middleware (MOM) command tokens and of MOM message tokens from an application running on a mobile wireless device serving as client, via said transport protocol adapter and using said transport protocol,

sending MOM message tokens to a client via said transport protocol adapter and using said transport protocol, and

exchanging MOM message tokens with a MOM client implemented on a computer of said wired computer network,

creating, on each wireless device, code information representing at least one of a topic and of queue contained in a MOM programming library,

transmitting, from each client, via the transport protocol adapter, the code information to the message proxy implemented on a computer connected to the wired computer network,

simultaneously or subsequently, transmitting, from each client, via the transport protocol adapter, message data specific to a first application to the message proxy, and

creating, by the message proxy, at least one MOM command referred to by the code information, and

forwarding the message data to a second application using the MOM command referred to by the code information.

26. (new) A system for delivering information between applications running on mobile wireless devices and serving as clients and applications running on computers, said computers being connected to a wired computer network, the system comprising

a message proxy implemented on a computer connected to the wired computer network, and wireless communication means for establishing a communication channel between the message proxy and the clients,

the clients each including a programming library corresponding to at least a fraction of a programming library used by a message oriented middleware (MOM) and a transport protocol adapter with a logic to interface with a transport protocol, thus defining at least one communication transport protocol for a communication on said communication channel,

the message proxy including at least one transport protocol adapter with a logic to interface with said communication transport protocol,

the system further comprising:

a command subsystem that creates, on each wireless device, code information representing at least one of a topic and of queue contained in a MOM programming library,

the clients including a transport protocol adapter that transmits the code information to the message proxy implemented on a computer connected to the wired computer network, and transmits simultaneously or subsequently, message data specific to a first application to the message proxy,

the message proxy including a MOM functionality that creates at least one MOM command referred to by the code information, and forwards the message data to a second application using the MOM command referred to by the code information.

27. (new) A method for delivering data between an application serving as client and running on a mobile wireless device and a message oriented middleware application running on a computer of a wired network,

comprising the steps of

implementing, on the mobile wireless device, a messaging system Application Programming Interface (API);

running a message proxy on a computer connected to the wired network, the proxy maintaining client subscriptions to topics and queues, and receiving and forwarding messages;

and at least one of the following two steps of

the client calling a command provided by the messaging system API;

the proxy receiving a message on behalf of the client;

and further comprising the step of

the proxy acting towards the message oriented middleware on behalf of the client as if the client was accessing the message oriented middleware directly.

28. (new) The method of claim 27, wherein a thin message client is installed on the mobile wireless device

and implements the API of the messaging system,
comprising the steps of

the client calling a command provided by the thin message client API;
a command subsystem of the thin message client creating a code information representing the command;
sending the code information to the message proxy using wireless communication;
simultaneously or subsequently, transmitting message data to the message proxy;
the message proxy maintaining message system state information associated with the client;
creating, by the message proxy, at least one MOM command referred to by the code information; and
the message proxy forwarding the message data to the message oriented middleware application, using said at least one MOM command.

29. (new) The method of claim 27, wherein a thin message client is installed on the mobile wireless device

and implements the API of the messaging system,
comprising the steps of

the proxy receiving a message on behalf of the client;
the proxy creating a code information representing the message;
the proxy sending the code information to the thin message client using wireless communication;
the thin message client creating, from the code information, a message; and

the client processing the message.

30. (new) The method of one of claims 27 to 29, comprising the step of at least one of the clients and the proxy storing messages in a local database, such that they will not be lost when a client is disconnected from the proxy.

31. (new) The method of one of claims 27 to 29, comprising the steps of the message proxy starting, at runtime, a pluggable transport protocol adapter enabling communication over a given transport protocol; the message proxy sending and receiving messages to and from message clients by means of the transport protocol adapter, using wireless protocols.

32. (new) The method of claim 31, wherein said at least one transport protocol adapter supports HTTP or SMS or WAP or WDP or GPRS or UMTS.

33. (new) The method of claim 28, wherein the command provided by the thin message client API and represented by code information or tokens is one of "subscribe", "unsubscribe", "create topic", "publish".

34. (new) The method of one of claims 27 to 29, wherein the API client library is a JMS (Java Messaging System) library.

35. (new) A system for delivering data between an application serving as client and running on a mobile wireless device and a message oriented middleware application running on a computer of a wired network,

comprising

a messaging system Application Programming Interface (API) implemented on the mobile wireless device;

a message proxy implemented on a computer connected to the wired network, the proxy being configured to maintain client subscriptions to topics and queues, and to receive and forward messages;

the proxy being configured to act towards the message oriented middleware on behalf of the client as if the client was accessing the message oriented middleware directly;

in at least one of the cases of

the client calling a command provided by the messaging system API;

the proxy receiving a message on behalf of the client.

36. (new) The system of claim 35, wherein the message proxy comprises a wireless transport protocol adapter implemented before start-up of the message proxy and a wireless transport protocol adapter implemented by a program code at run-time of the message proxy.

37. (new) A method of providing an Application Programming Interface (API) for a wireless client accessing a computer of a wired network via a computer network server, the method comprising the steps of

selecting a first set of functionality of a programming library used by a message oriented middleware and implementing at least a client API to serve as a thin programming library and configuring and installing the thin programming library to operate on the wireless client;

selecting a second set of functionality of a message oriented middleware to serve as a message proxy, the message proxy being more complete than the thin programming library, and configuring and installing the message proxy to operate on a computer network server remote from the wireless client;

configuring a command subsystem allowing the thin programming library to remote-control, via a wireless network, the message proxy operating on the computer network server; and

employing command tokens to communicate between the thin programming library operating on the wireless client and the message proxy operating on the computer network server to enable the wireless client to appear as though it has greater message oriented middleware functionality than provided by the thin programming library alone.

38. (new) The method of claim 37 further comprising the step of providing data storage functionality to the thin programming library and the message proxy to ensure that messages are not lost due to temporary interruption of the communication between the thin programming library and the message proxy.

39. (new) The method of claim 38 further comprising providing the data storage functionality by means of a pluggable database adapter that allows the client or the message proxy to use any of a plurality of database products.

40. (new) The method of claim 37 further comprising implementing the client according to the JMS (Java Message Service) specification.

41. (new) The method of claim 37, further comprising the steps of
the message proxy starting, at runtime, a pluggable transport protocol adapter enabling communication over a given transport protocol; and

the message proxy sending and receiving messages to and from message clients by means of the transport protocol adapter, using wireless protocols.